

DAC / Preamp / Headphone Amplifier

User's Guide



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# Overview

"Cyan" can be equipped with two different core modules, one is PCM digital analog conversion module, and the other is DSD digital analog conversion module. The type of core module determines the internal digital-to-analog conversion method. However, another non-source digital analog conversion method can be supported by the internal SRC (Sampling Mode Conversion) function. Please refer to the SRC section below for details. Optional PCM module – The internal source digital analog conversion mode is PCM mode. When receiving DSD data, the internal will automatically convert to PCM and then perform digital analog conversion. Due to SRC capacity limitations, the maximum can only receive DSD256. Optional DSD module – The internal source digital analog conversion mode is DSD mode. When receiving PCM data, it will be automatically converted into DSD and then digitally simulated. Since the DSD cannot perform digital volume control, the "green" volume setting will be disabled and the output level will be fixed at the highest after installation of the optional DSD module. At the same time, since the volume control cannot be performed, the headphone amplifier will be automatically turned off to prevent the excessive volume from damaging the headphones.

# Specifications

## **Digital inputs**

COAXIAL1, COAXIAL2, OPTICAL, AES	PCM 44.1-192K (24bit)	
	DSD 64X (DOP)	
USB	PCM 44.1-384K (32bit)	
	DSD 64-256X (DOP)	
	DSD 64-256X (Native) with PCM Module	
	DSD 64-512X (Native) with DSD Module	
125	PCM 44.1-384k (32bit)	
	DSD 64-256X with PCM Module	
	DSD 64-512X with DSD Module	

### Analog output

	THD+N 0.001% @1K		
PCM 48K NOS	SNR -125dB		
	Voltage Output 2.3Vrms(RCA), 4.6Vrms(XLR)		
	THD+N 0.0007% @1K		
DSD 128X	SNR -121dB		
	Voltage Output 1.3Vrms(RCA), 2.6Vrms(XLR)		
	THD+N 0.0015% @1K		
	SNR -120dB		
	Low resistance (Single Ended) 400mW@32Ohm load		
Headphone output			
	Low resistance (Balanced) 1600mW@320hm load		
	High resistance(Single Ended) 180mW@300Ohm load		
	High resistance(Balanced) 720mW@3000hm load		

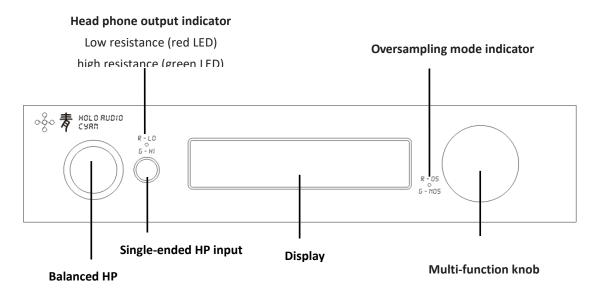
Dimensions	260x281*55mm(WxLxH) *Does not include protruding parts
Weight	5kg (11 Pounds)

Power input (configurable,	220-230V 50/60Hz 2A (fuse type 5x20mm SB 2A)	
see the bottom label of the	110-115V 50/60Hz 4A (fuse type 5x20mm SB 4A)	
machine)	110-115V 50/00Hz 4A (luse type 5x20hill 3B 4A)	
Power consumption	30W	

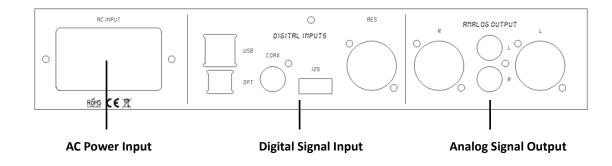
Accessories	Power Cable x1
	USB Cable x1
	Remote Control x1

### **Front Panel**

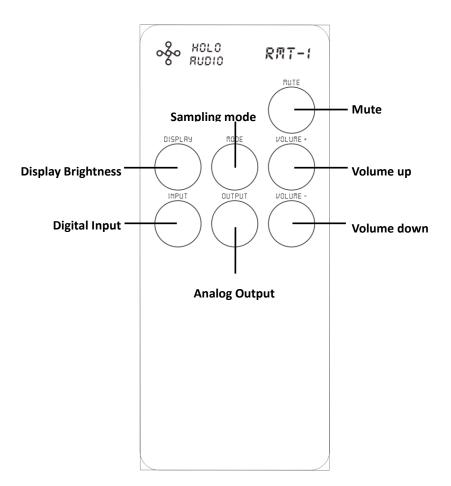
Low-impedance/high-impedance headphone output indicator, red is the low-impedance headphone output, and green is the high-impedance headphone output. Not lit for line output. Oversampling mode indicator, red for oversampling (OS) and green for non-oversampling (NOS).



### **Rear Panel**



### **Remote Control**



### Settings

Settings can be applied without the remote control. This can be done by using the multi-function knob on the front panel of the DAC.

In the default mode, rotate left and right to set the volume, short press the knob to unmute/mute. Press and hold the knob to enter the setting mode. Press and hold the knob again to enter the next setting mode. In the setting Mode, rotate left and right for the corresponding settings. The order is:

"IN – Digital Input Settings" "Out – Analog Output Settings" "FMODE – Sample Mode Settings" DISP – Display Brightness Settings"

#### Volume settings

The adjustable volume maximum is 100dB, adjustable by 0.5dB per step/increment. When the digital volume attenuation function is turned off, this is the through mode.

#### Digital input settings

Select the digital source signal in "USB", "I2S", "COAX", "AES", "OPT".

#### Analog output settings

LINE – Line output, output on the single-ended and balanced line ports on the rear panel.

HP-LO – Headphone low-impedance output, single-ended and balanced headphone output port on the front panel for headphones below 100 ohms.

HP-HI – Headphone high-impedance output, single-ended and balanced headphone output port on the front panel for headphones with 100 ohm impedance or more.

Sampling mode setting Divided into two types, NOS mode and OS mode. For the selection of NOS mode and OS mode, please refer to <u>https://kitsunehifi.com/nosvsos/</u>

#### **Display brightness settings**

Set the brightness of the display, a total of 6 levels of brightness. The lowest level is to completely turn off the display.

### Internal SRC (sampling rate conversion)

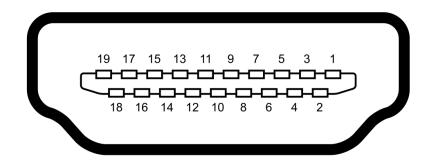
Optional discrete PCM module, due to SRC chip limitations, supports DSD256 when receiving DSD signals. If using the optional discrete DSD module instead of discrete PCM Module, the maximum support would be DSD512 and is due to the fact that SRC is not required and all DSD is processed via the discrete DSD module. See details below:

	Mode	Input Format	Internal SRC
	NOS mode	PCM	No SRC
Cuan DCM		DSD	Convert DSD to PCM
Cyan - PCM	OS mode	PCM	Oversampled to 352.8K or 384K PCM
		DSD	Convert DSD to PCM
Cyan - DSD	NOS mode	PCM	Convert PCM to DSD
		DSD	No SRC
	OS mode	PCM	Oversampled to DSD256
		DSD	Convert PCM to DSD

#### **12S Digital Input**

#### LVDS differential transmission mode

The Physical interface is the same as HDMI and an HDMI cable can be used. However, the electrical signal it transmits is I2S protocol, not the audio and video signals of the conventional HDMI. *Please do NOT attempt to use HDMI devices with I2S Devices as damage may occur,* ie. bluray player, TV etc. NOTE: <u>Always</u> have both devices *powered off* when plugging in or unplugging HDMI I2S cables.



Pin	РСМ	DSD
1	I2S_DATA-	DSD_DATA_L-
2	GND	GND
3	I2S_DATA+	DSD_DATA_L+
4	I2S_BCK+	DSD_BCK+
5	GND	GND
6	I2S_BCK-	DSD_BCK-
7	I2S_LRCK-	DSD_DATA_R-
8	GND	GND
9	I2S_LRCK+	DSD_DATA_R+
10	I2S_MCLK+	DSD_MCLK+
11	GND	GND
12	I2S_MCLK-	DSD_MCLK-
13	NC	NC
14	NC	NC
15	NC	NC
16	NC	NC
17	GND	GND
18	NC	NC
19	GND	GND

#### **Driver Installation**

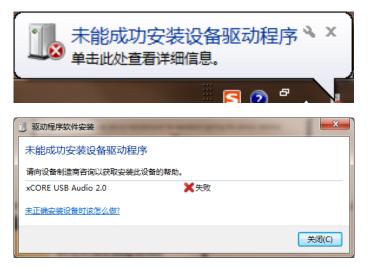
Apple Mac OS X 10.6.4 and above comes with a driver, no need to install drivers. Mac OS does not support DSD Native mode.

Linux OS also has a built-in driver and does not require a driver.

The latest Windows 10 comes with a driver, but since its own driver does not support ASIO and does not support DSD, you need to install the driver provided by Holo Audio. The driver installation steps are as follows.

Connect "青 Cyan" to the power supply and turn it on. Connect the USB input port to the computer USB port by using the USB cable, and select the input source as USB. Note that if the input source is not selected as USB, the computer will not recognize the Cyan DAC USB Device properly.

When "青 Cyan" is connected to the computer via USB, the Windows system will display a notification that the new hardware is found, and the driver installation failed. Please ignore the failure notification (see the figure below).



Locate the file named "HoloAudio\_v4.35.0\_2017-11-01\_setup.exe" Double click or right click to open/run the file. (Filename and version may have changed. Please refer to whatever is newest on the products website)



The installation wizard will ask you to close other applications before installing. If you have other applications running, please close it and click > "NEXT".

Setup	
Choose Install Location Choose the folder in which to install HoloAudio USB Audio Interface v4.35.0.	P
Setup will install HoloAudio USB Audio Interface v4.35.0 in the following folde different folder, dick Browse and select another folder. Click Install to start th	
Destination Folder           C:\Program Files\HoloAudio\USB Audio Device Driver         B	rowse
Space required: 4.2MB Space available: 12.4GB	
< Back Install	Cancel

If necessary, select the installation folder by clicking "Browse..." or use the default path (recommended) and click > "Install".

Setup
Installing Please wait while HoloAudio USB Audio Interface v4.35.0 is being installed.
Waiting Preparation. Preparing installation. This may take some time to complete. Please wait Execute: 'C:\Users\V230\AppData\Local\Temp\tlsfxCDE086B3\HoloAudio_v4.35.0_2 Waiting
< Back Next > Cancel

...Installation is in progress...



If the message like the either one on the left pops up during the loading process click > "Install".

Setup was completed successfully.		
Execute: regsvr32 /s "C:\Program Files\Hok Create shortcut: C:\ProgramData\Wicrosoft Create shortcut: C:\ProgramData\Wicrosoft Preinstalling drivers. This may take some time to complete. Pleas	\Windows\Start Menu\Prog \Windows\Start Menu\Prog	grams\HoloAudi
Preinstallation was successful. Click Next to	continue.	Ξ

When you see the notification as shown on the left, the driver installation is complete, click > "NEXT" to continue.



Click > "Finish" to close the installer. The device is now available to any application under Windows as an ASIO and WDM audio device.

### **Common software settings**

#### <u>Windows</u>

Default playback device settings

After installing the driver, Windows will have one more audio output device, so that the system will have multiple audio output devices to choose from. Normal application software will be output to the default playback device on Windows. At this time, you need to set it up to use the "green" as the default playback device for Windows.

2 -	打开音量合成器(M) 播放设备(P) 录音设备(R) 声音(S) 音量控制选项(V)	) /12/18
● 声音		×
播放  录制  声音		
选择以下播放设备来例		
● □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □		<b>^</b>
Bluetoot Bluetoot 已断开连		
あ声器/E IDT High 默认设备	h Definition Audio CODEC	
通讯耳机 IDT High 准备就绪	h Definition Audio CODEC	=
	<b>ledia Center 20</b> Iedia Center 20	
あ声器 XMOS U 准备就绪	JSB Audio	
配置(C)	设为默认值(S) ▼	属性(P)
	确定 取消	应用 (A)

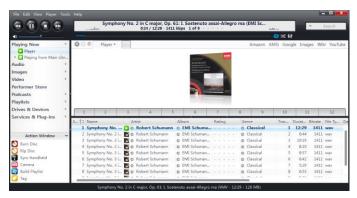
Right click on the sound icon in the desktop status bar, click to select > "Play Device (P)" or press the "P" button on the keyboard to enter the playback device control panel, as shown below.

In the sound/playback directory, make the output device settings, click to select >"Speaker XMOS USB Audio", then click the > "Set as Default (S)" button to set "Cyan" as the system default output device.

## J.River

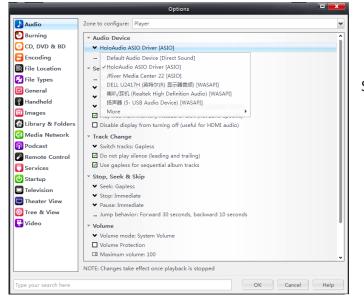
#### Playback settings

The following operations are based on the J.River Media Center 20.0.27 English user interface.

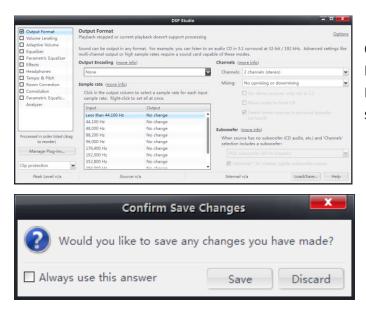




Click > Tools / Options on the play page or use Ctrl+O to enter the settings page.



Set > "Audio Device" to "HoloAudio ASIO Driver [ASIO]".



Click > "Settings" / "Output Format" If you want to set to PCM output, select Output Encoding to > "None". If you want to set to DSD output, select the corresponding DSD bit rate here.

After setting the above parameters and clicking Exit Settings, a dialog box like the one on the left will pop up. Click > "Save".

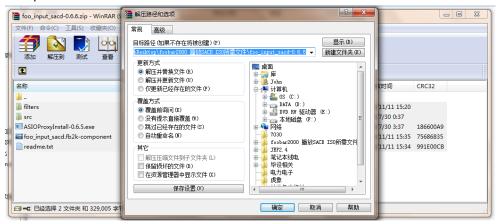
### Foobar2000

#### **Playback settings**

Set the required files for playing DSD files and the foobar2000 player software to download this folder first in this network folder http://pan.baidu.com/s/1pLgseWb. After downloading the folder, extract the compressed file and prepare for installation and setup.



Open the decompressed foobar2000 file. It is recommended to install it with the default settings until it is completed.



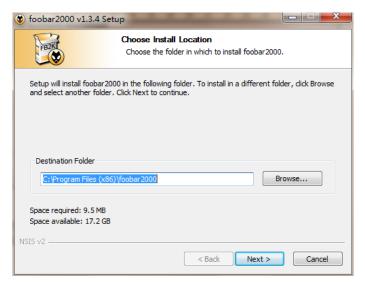
Click to open the foobar2000 installation file:



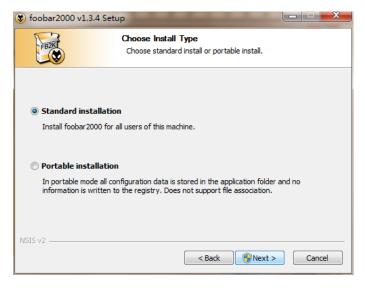
Click > the "NEXT > button" to continue the installation.

🈻 f	foobar2000 v1.3.4 Setup	×
	License Agreement           Please review the license terms before installing foobar 2000.	
F	Press Page Down to see the rest of the agreement.	
	foobar2000 audio player Copyright © 2001-2014 Peter Pawlowski Portions copyright © 2005-2006 Holger Stenger Portions copyright © 2003-2005 Gian-Carlo Pascutto Icons copyright © 2007 Florian Trendelenburg Icons and installer script copyright © 2003-2014	
a	If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install foobar 2000.	
NSI	S v2	

Click > the "I Agree" button to proceed with the installation.



If necessary, select the installation folder by clicking on "Browse..." or use the default

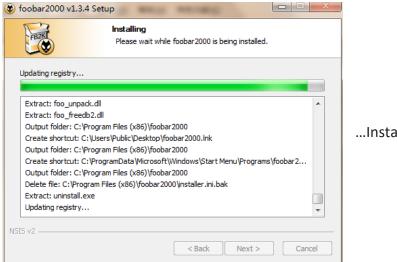


The installation type here selects the default "Standard installation", *do not* select "Portable installation".

Click > the "Next >" button to continue the installation.

😵 foobar2000 v1.3.4 Setup						
Choose Components Choose which features of foobar2000 you want to install.						
Check the components you w install. Click Install to start th	ant to install and uncheck the components you don't want to e installation.					
Select the type of install:	Full					
Or, select the optional components you wish to install:	Froder 2000 ▷ (♥) Optional features ▷ (♥) Shortcut icons					
	Description					
Space required: 10.3MB	foobar2000 and required components.					
NSIS v2						
	< Back Install Cancel					

Here the software composition selects the default (Full) all installation (recommended). Click > the "Install" button to continue the installation



...Installation is in progress...



When you see the notification as shown on the left, the installation is complete, click > the "Finish" button and the Foobar 2000 installation is complete.

#### Foobar2000 plays SACD/ISO settings

1. Install the ASIO plugin. Double-click the "foo\_out\_asio" file to install it with the default settings until it is complete.

📓 foo\_out\_asio 14/11/25 15:52 foobar2000 Co... foobar2000 Component Installer The following component package will be installed: foo\_input\_sacd Please continue ONLY if you trust the web site you obtained this package from. Do you want to continue? 是(Y) 否(N)

The installation prompt will pop up. Click > the "Yes" button to continue the installation.

183 KB

omponents	Installed components: Right-click a component for add			
splay	Name	Version	Module	
eyboard Shortcuts	Album List	4.5	foo albumlist	
fedia Library Jetworking	CD Audio Decoder	3.0	foo cdda	
lavback	Converter	1.5	foo converter	
hell Integration	Default User Interface	0.9.5	foo_ui_std	
iools	Equalizer	1.0	foo dsp eq	
dvanced	File Operations	2.2.1	foo_fileops	
	foobar 2000 core	1.3.4	Core	
	Online Tagger	0.7	foo_freedb2	
	ReplayGain Scanner	2.2.1	foo_rgscan	
	Standard DSP Array	1.3	foo_dsp_std	
	Standard Input Array	1.0	foo_input_std	
	ZIP/GZIP/RAR Reader	1.7.1	foo_unpack	
	(unknown - please apply changes to load	d) (unknown)	foo_out_asio	
	Get more components Why are some components grayed out?		instali ) Cooy report ) Get	

After the installation is complete, click the "OK" button to make the installation take effect.



The application change program will ask to restart the Foobar 2000 prompt dialog and click > the "confirm" button.

1. Install the "foo\_input\_sacd" file and install it with the default settings until it is complete.

🔽 🔛 foo_input_sacd	13/11/11 15:35	foobar2	2000 Co	157 KB	
obar2000 Component Installer	-	×			
The following component package wi foo_out_asio Please continue ONLY if you trust the package from.		his		t dialog box shc : Click > the "Ye	
Do you want to continue?					
	是(Y) 否	ī(N)			

the left will pop up during on to continue the installation.

mponents	Installed components:	Rig	ht-click a component for addition
play	Name	Version	Module
yboard Shortcuts dia Library	Album List	4.5	foo_albumlist
tworking	ASIO support	2.1.2	foo_out_asio
wback	CD Audio Decoder	3.0	foo_cdda
ell Integration	Converter	1.5	foo_converter
ols	Default User Interface	0.9.5	foo_ui_std
vanced	Equalizer	1.0	foo_dsp_eq
	File Operations	2.2.1	foo_fileops
	foobar 2000 core	1.3.4	Core
	Online Tagger	0.7	foo_freedb2
	ReplayGain Scanner	2.2.1	foo_rgscan
	Standard DSP Array	1.3	foo_dsp_std
	Standard Input Array	1.0	foo_input_std
	ZIP/GZIP/RAR Reader	1.7.1	foo_unpack
	(unknown - please apply changes to lo	ad) (unknown)	foo_input_sacd
	Get more components		stal Copy report Get
	Why are some components grayed out?           Reset all         Reset page		OK Cancel

After the installation is complete, click > the "OK" button to make the installation take effect.

The application change program will ask you to restart the Foobar 2000 prompt dialog and click > the "Confirm" button.

The Foobar 2000 must also	b be set up after the installation is complete	2.

确定

取消

Applying these changes requires foobar2000 to be restarted. Continue?

File Edit View Playback Library Help 🗆 🗅 🕅 🕅 🕅 🕅

Ctrl+O

foobar2000 v1.3.4

Open...

In the foobar2000 play interface, click > "File" to select "Preferences", or press CTRL+P to open the preference interface.

Open audio CD				
		Track Title / track artist	Dura	
Add files		01 Symphony No.6 in B minor, Op	19:12	
Add folder		02 Symphony No.6 in B minor, Op	6:19	
Add location	Ctrl+U	03 Symphony No.6 in B minor, Op	7:15	
New playlist	Ctrl+N	04 Symphony No.7 in C major, Op	27:12	
Load playlist	Cultin	05 Symphony No.7 in C major, Op	10:53	
Save playlist	Ctrl+S	01 Symphony No.6 in B minor, Op	19:12	
Save playlist	Ctri+S	02 Symphony No.6 in B minor, Op	6:19	
Preferences	Ctrl+P	03 Symphony No.6 in B minor, Op	7:15	
Exit		04 Symphony No.7 in C major, Op	27:12	
		05 Symphony No.7 in C major, Op	10:53	

Components	Device				
· Display · Keyboard Shortcuts	DSD : ASIO : HoloAudio ASIO Driver				
Media Library					
- Networking	Buffer length				
Playback					
DSP Manager     Output					
ASIO	1000 ms				
- Shell Integration	Warning: setting too low buffer length may cause some visualization effects to stop working,				
> · Tools	Output format				
Advanced	Output format				
	Output data format: 32-bit   Dither				
	hardware capabilities will only result in degraded performance.				
	Reset all Reset page OK Cancel Apply				

With the path Playback/Output, select the output device as:

"DSD: ASIO: HoloAudio ASIO Driver" as shown and then click > the "Apply" button.

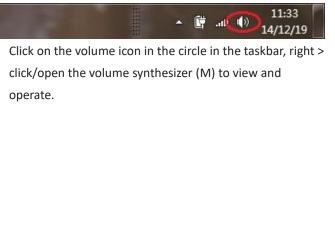
Preferences: SACD				Action 1	? X	
r Components ▷ · Display	Output Mode:	DSD 🔻				
▷ Spiny	PCM Volume:	+0dB 🔻 [	Log Overloads			SACD output format
→ Networking → Playback	PCM Samplerate:	176400 🔻				settings:
DSP Manager     Output     ASIO	DSD2PCM Mode:	Multistage (64fp	o) 🔹 🗌	oad Save		
Shell Integration     ✓ Tools     ····SACD     ▷ · Tagging     ▷ · UPnP     ··· Advanced	Preferable Area:	Store Tags W	/ith ISO Linked 2CH	I/MCH Tags		Set the parameters as shown in the figure below via the Tools/SACD and
	DSD Output Device	e				click > the "Apply" button.
	ASIO : HoloAudio		✓ Confi	igure DoP		
	Channel Map (click	to edit)				
	Device channel	Format	Mapping			
	Analogue 1 Analogue 2	DSDInt8MSB1 DSDInt8MSB1	Left Right			At this point, all the settings are completed, click > the
						"OK" button.
	Output Trace					
	Reset all Re	eset page	0	K Cancel	Apply	

Playi	Artist/album	Track Title / track artist	Dura
, ayını	DMITRI SHOSTAKOVICH - ?	01 Symphony No.6 in B minor, Op	19:12
	DMITRI SHOSTAKOVICH - ?	02 Symphony No.6 in B minor, Op	6:19
	DMITRI SHOSTAKOVICH - ?	03 Symphony No.6 in B minor, Op	7:15
	DMITRI SHOSTAKOVICH - ?	04 Symphony No.7 in C major, Op	27:12
	DMITRI SHOSTAKOVICH - ?	05 Symphony No.7 in C major, Op	10:53
	DMITRI SHOSTAKOVICH - ?	01 Symphony No.6 in B minor, Op	19:12
	DMITRI SHOSTAKOVICH - ?	02 Symphony No.6 in B minor, Op	6:19
	DMITRI SHOSTAKOVICH - ?	03 Symphony No.6 in B minor, Op	7:15
	DMITRI SHOSTAKOVICH - ?	04 Symphony No.7 in C major, Op	27:12
	DMITRI SHOSTAKOVICH - ?	05 Symphony No.7 in C major, Op	10:53

If "cyan" is not set as the system default device but is occupied by Foobar2000 alone, the volume of Foobar2000 must be set to **100%** 

Note: When playing DSD, the output volume of the system volume synthesizer in the task bar at the bottom of the

#### computer must be 100%



音量合成器 - 扬声 设备(D)	器 (XMOS USB Audio)	<b>X</b>
扬声器 ▼	<b>派</b> 系统声音	
	-	
<b>(</b> )	<b>(</b> )	